DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

U.S. GEOLOGICAL SURVEY
OPEN FILE MAP
77-169-E

SOURCES AND EXPLANATION OF DATA

1. Alaska Division of Geological and Geophysical Surveys, 1973 (revised, 1977), Aeromagnetic map, southeastern part of Fairbanks quadrangle, Alaska: Alaska Div. Geol. and Geophys. Surveys open-file report 8, scale 1:250,000, contour interval 10 gammas.

   Contour interval: 100 gammas; heavy numbered contours are 500 gammas; numbers are hundreds of gammas.
   Relative datum: 5000 gammas = zero datum, IGRF removed.
   Flight line spacing and direction: 3/4 mile north-south, with 15 mile east-west tie lines.
   Flight elevation: 1000 feet above ground level.
   Type of magnetometer: fluxgate.
   Year flown: 1971 and 1972.

2. Alaska Division of Geological and Geophysical Surveys, 1973, Aeromagnetic map, Big Delta quadrangle, Alaska: Alaska Div. Geol. and Geophys. Surveys open-file report 23, scale 1:250,000, contour interval 10 gammas.

   Contour interval: 100 gammas; heavy numbered contours are 500 gammas; numbers are hundreds of gammas.
   Relative datum: 5000 gammas = zero datum, IGRF removed.
   Flight line spacing and direction: 3/4 mile north-south, with 15 mile east-west tie lines.
   Flight elevation: 1000 feet above ground level.
   Type of magnetometer: fluxgate.
   Year flown: 1972.

3. Alaska Division of Geological and Geophysical Surveys, 1973 (revised, 1977), Aeromagnetic map, Healy quadrangle, Alaska: Alaska Div. Geol. and Geophys. Surveys open-file report 9, scale 1:250,000, contour interval 10 gammas.

   Contour interval: 100 gammas; heavy numbered contours are 500 gammas; numbers are hundreds of gammas.
   Relative datum: 5000 gammas = zero datum, IGRF removed.
   Flight line spacing and direction: 3/4 mile north-south, with 15 mile east-west tie lines.
   Flight elevation: 1000 feet above ground level.
   Type of magnetometer: fluxgate.
   Year flown: 1971 and 1972.

4. Alaska Division of Geological and Geophysical Surveys, 1973 (revised, 1977), Aeromagnetic map, Mt. Hayes quadrangle, Alaska: Alaska Div. Geol. and Geophys. Surveys open-file report 10, scale 1:250,000, contour interval 10 gammas.

   Contour interval: 100 gammas; heavy numbered contours are 500 gammas; numbers are hundreds of gammas.
   Relative datum: 5000 gammas = zero datum, IGRF removed.
   Flight line spacing and direction: 3/4 mile north-south, with 15 mile east-west tie lines.
   Flight elevation: 1000 feet above ground level.
   Type of magnetometer: fluxgate.
   Year flown: 1971 and 1972.

5. Alaska Division of Geological and Geophysical Surveys, 1973, Aeromagnetic map, Tanacross quadrangle, Alaska: Alaska Div. Geol. and Geophys. Surveys open-file report 11, scale 1:250,000, contour interval 10 gammas.

   Contour interval: 100 gammas; heavy numbered contours are 500 gammas; numbers are hundreds of gammas.
   Relative datum: 5000 gammas = zero datum, IGRF removed.
   Flight line spacing and direction: 3/4 mile north-south, with 15 mile east-west tie lines.
   Flight elevation: 1000 feet above ground level.
   Type of magnetometer: fluxgate.
   Year flown: 1971.

6. Griscom, Andrew, 197_, Aeromagnetic interpretation of the Talkeetna quadrangle, Alaska: U.S. Geol. Survey Misc. Field Studies Map MF ___ (in preparation), scale 1:250,000, contour interval 10 gammas.

   Contour interval: 100 gammas; heavy numbered contours are 500 gammas; numbers are hundreds of gammas.
   Relative datum: 5000 gammas = zero datum, IGRF removed (1965), updated to 1975, and adjusted for 1972 Alaska State survey.
   Flight line spacing and direction: 1 mile north-south.
   Flight elevation: 1000 feet above ground level.
   Year flown: 1974.

7. Alaska Division of Geological and Geophysical Surveys, 1973, Aeromagnetic map, Talkeetna quadrangle, Alaska: Alaska Div. Geol. and Geophys. Surveys open-file report 19, scale 1:250,000, contour interval 10 gammas.

   Contour interval: 100 gammas; heavy numbered contours are 500 gammas; numbers are hundreds of gammas.
   Relative datum: 6000 gammas = zero datum, IGRF removed.
   Flight line spacing and direction: 3/4 mile north-south, with 15 mile east-west tie lines.
   Flight elevation: 1000 feet above ground level.
   Type of magnetometer: fluxgate.
   Year flown: 1972.

8. Alaska Division of Geological and Geophysical Surveys, 1973, Aeromagnetic map, Talkeetna Mts. quadrangle, Alaska: Alaska Div. Geol. and Geophys. Surveys open-file report 20, scale 1:250,000, contour interval 10 gammas.

   Contour interval: 100 gammas; heavy numbered contours are 500 gammas; numbers are hundreds of gammas.
   Relative datum: 6000 gammas = zero datum, IGRF removed.
   Flight line spacing and direction: 3/4 mile north-south, with 15 mile east-west tie lines.
   Flight elevation: 1000 feet above ground level.
   Type of magnetometer: fluxgate.
   Year flown: 1972.

9. Andreasen, G.E., Grantz, Arthur, Zietz, Isidore, and Barnes, D.F., 1964, Geologic interpretation of magnetic and gravity data in the Copper River Basin, Alaska: U.S. Geol. Survey Prof. Paper 316-H, p. 135-153, scale 1:250,000, contour interval 20 gammas.
   also see: Andreasen, G.E., Dempsey, W.J., Henderson, J.R., and Gilbert, F.P., 1958, Aeromagnetic map of the Copper River Basin, Alaska: U.S. Geol. Survey Geophys. Inv. Map GP-156, scale 1:250,000, contour interval 20 gammas.

   Contour interval: 100 gammas; heavy numbered contours are 500 gammas; numbers are hundreds of gammas.
   Datum: arbitrary.
   Flight line spacing and direction: 1 mile north-south.
   Flight elevation: 4000 feet above sea level except locally where topography required higher flight elevations.
   Type of magnetometer: modified AN/ASQ-3A fluxgate.
   Year flown: 1954 and 1955.

10. Alaska Division of Geological and Geophysical Surveys, 1973, Aeromagnetic map, northeast corner of Gulkana quadrangle, Alaska: Alaska Div. Geol. and Geophys. Surveys open-file report 12, scale 1:250,000, contour interval 10 gammas.

    Contour interval: 100 gammas; heavy numbered contours are 500 gammas; numbers are hundreds of gammas.
    Relative datum: 5000 gammas = zero datum, IGRF removed.
    Flight line spacing and direction: 3/4 mile north-south, with 15 mile east-west tie lines.
    Flight elevation: 1000 feet above ground level.
    Type of magnetometer: fluxgate.
    Year flown: 1971.

11. Alaska Division of Geological and Geophysical Surveys, 1973, Aeromagnetic map, Nabesna quadrangle, Alaska: Alaska Div. Geol. and Geophys. Surveys open-file report 13, scale 1:250,000, contour interval 10 gammas.

    Contour interval: 100 gammas; heavy numbered contours are 500 gammas; numbers are hundreds of gammas.
    Relative datum: 5000 gammas = zero datum, IGRF removed.
    Flight line spacing and direction: 3/4 mile north-south, with 15 mile east-west tie lines.
    Flight elevation: 1000 feet above ground level.
    Type of magnetometer: fluxgate.
    Year flown: 1971.

12. Alaska Division of Geological and Geophysical Surveys, 1973, Aeromagnetic map, Anchorage quadrangle, Alaska: Alaska Div. Geol. and Geophys. Surveys open-file report 21, scale 1:250,000, contour interval 10 gammas.

    Contour interval: 100 gammas; heavy numbered contours are 500 gammas; numbers are hundreds of gammas.
    Relative datum: 5000 gammas = zero datum, IGRF removed.
    Flight line spacing and direction: 3/4 mile north-south, with 15 mile east-west tie lines.
    Flight elevation: 1000 feet above ground level.
    Type of magnetometer: fluxgate.
    Year flown: 1972.

13. Case, J.E., and MacKevett, E.M., Jr., 1976, Aeromagnetic map and geologic interpretation of aeromagnetic map, McCarthy quadrangle, Alaska: U.S. Geol. Survey Misc. Field Studies Map MF 773-D, scale 1:250,000, contour interval 10 gammas.

    Contour interval: 100 gammas; heavy numbered contours are 500 gammas; numbers are hundreds of gammas
    Relative datum: 5000 gammas = zero datum, IGRF removed (1965), updated to 1975.
    Flight line spacing and direction: 1 mile north-south.
    Flight elevation: 1000 feet above ground level.
    Year flown: 1975.

14. Grantz, Arthur, Zietz, Isidore, and Andreasen, G.E., 1963, An aeromagnetic reconnaissance of the Cook Inlet area, Alaska: U.S. Geol. Survey Prof. Paper 316-G, p. 117-134, scale 1:500,000.

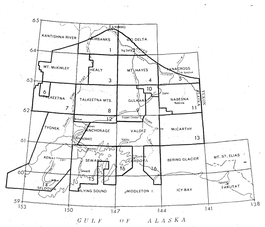
    Profile amplitude: 1/4 inch = 1000 gammas; index numbers are hundreds of gammas.
    Datum: arbitrary.
    Flight line spacing and direction: spacing variable between 2 and 16 miles east-west.
    Flight elevation: 2500 feet above sea level except locally where topography required higher flight elevations.
    Type of magnetometer: modified AN/ASQ-3A fluxgate.
    Year flown: 1954 and 1958.

15. U.S. Geological Survey, 1977, Aeromagnetic survey, parts of Seward and Blying Sound quadrangles, Alaska: unpublished data, scale 1:250,000, contour interval 5 gammas.

    Contour interval: 100 gammas; heavy contours are 500 gammas; numbers are hundreds of gammas.
    Datum: variable, IGRF removed (1965), updated to 1975.
    Flight line spacing and direction: 1 mile north-south with variably spaced east-west tie lines.
    Flight elevation: 1000 feet above ground level.
    Type of magnetometer: G-803 proton.
    Year flown: 1975.

16. U.S. Geological Survey, 1977, Aeromagnetic survey, parts of Cordova and Middleton Island quadrangles, Alaska: unpublished data, scale 1:250,000, contour interval 5 gammas.

    Contour interval: 100 gammas; heavy contours are 500 gammas; numbers are hundreds of gammas.
    Datum: variable, IGRF removed (1965), updated to 1975.
    Flight line spacing and direction: 1 mile north-south with variably spaced east-west tie lines.
    Type of magnetometer: G-803 proton.
    Year flown: 1975.



Index map showing sources of aeromagnetic data.

Base map from the National Atlas of the United States of America, U.S. Geological Survey, 1970.

Location of the eastern part of southern Alaska.

MAP SYMBOLS

Magnetic contours, numbers are gammas x 100.

Hatchered contours indicate magnetic lows.

Magnetic profile (solid line) and aircraft flight line (dashed line).

Profile index with magnetic anomaly values in gammas x 100.

ACKNOWLEDGMENTS

This map was compiled under the direction of J.E. Case and Andrew Griscom, U.S. Geological Survey. The amplitude of Cook Inlet profiles was computer reduced by David F. Barnes in order to display the profiles in map format without unnecessary overlap.

This map is a compilation of the available aeromagnetic data from the eastern part of southern Alaska; no attempt has been made to establish a common datum or to resolve boundary differences between adjacent surveys. The map is intended to show large scale magnetic anomaly patterns and to aid in regional geologic interpretations. Anyone interested in the detailed magnetic data for a particular area is referred to the original data.

PRELIMINARY AEROMAGNETIC MAP OF THE EASTERN PART OF SOUTHERN ALASKA

COMPILED BY

JOHN DECKER AND SUSAN KARL

1977

SCALE 1:1 000 000

25 0 25 50 75 100 MILES

25 0 25 50 75 100 KILOMETERS

This report is preliminary and has not been edited or reviewed for conformity with Geological Survey standards and nomenclature.